

WHAT IS CLAIMED IS:

1. A driving support system for a vehicle, comprising:

a communication apparatus enabling bi-directional communication between a  
5 first vehicle and an unspecified number of moving objects, said communication apparatus  
obtaining at least one of i) communication impeding intersection information relating to a  
communication impeding intersection at which there is a radio-wave blocking object that  
blocks radio waves, and ii) moving object information relating to at least one of first  
10 moving objects which is on an intersecting road that intersects a road on which the first  
vehicle is traveling, by communication between the first vehicle and the first moving  
object, from among the unspecified number of moving objects, which is traveling on the  
intersecting road, said communication apparatus transmitting to a second moving object,  
from among the unspecified number of moving objects, at least one of the communication  
impeding intersection information and the moving object information; and

15 a detection device which detects the presence of the communication impeding  
intersection using at least one of the communication impeding intersection information and  
the moving object information,

wherein said communication apparatus transmits to the second moving object on  
the road on which the first vehicle is traveling at least one of the communication impeding  
20 intersection information and the moving object information only when the presence of the  
communication impeding intersection has been detected.

2. The driving support system according to claim 1, wherein said detection device  
detects the presence of the communication impeding intersection based on a  
25 communication history between the first vehicle and the first moving object.

3. The driving support system according to claim 1, wherein said detection device  
detects the presence of the communication impeding intersection when communication  
between the first vehicle and the first moving object, which is within a predetermined  
30 distance from the first vehicle, starts while communication between the first vehicle and  
only the second moving object is taking place.

4. The driving support system according to claim 1, wherein said detection device  
detects the presence of the communication impeding intersection when the distance

between i) the first vehicle at the time communication with the first moving object started and ii) a point of intersection of the intersecting road and the road on which the first vehicle is traveling is less than a predetermined distance.

5           5. The driving support system according to claim 1, wherein said communication apparatus transmits to the second moving object the moving object information including only information relating to the first moving object that is approaching the communication impeding intersection.

10           6. The driving support system according to claim 5, wherein said communication apparatus transmits to the second moving object the moving object information including only information relating to the first moving object that has moved a predetermined distance or more away from the communication impeding intersection.

15           7. The driving support system according to claim 1, wherein said communication apparatus transmits to the second moving object the communication impeding intersection information including information relating to the location of the communication impeding intersection.

20           8. The driving support system according to claim 1, wherein said communication apparatus transmits to the second moving object the communication impeding intersection information including information relating to the presence of the radio-wave blocking object at the communication impeding intersection.

25           9. The driving support system according to claim 8, wherein said detection device evaluates the presence of the radio-wave blocking object based on a change in the communication state between the first vehicle and the first moving object.

30           10. The driving support system according to claim 8, wherein said detection device evaluates the presence of the radio-wave blocking object based on the distance between i) the first vehicle at the time communication with the first moving object ends, after the first vehicle has passed through the communication impeding intersection, and ii) the communication impeding intersection.

11. The driving support system according to claim 1, wherein when the presence of the communication impeding intersection has been detected, the communication apparatus transmits to the second moving object at least one of the communication impeding intersection information and the moving object information only when there is not a traffic  
5 signal at the communication impeding intersection.

12. The driving support system according to claim 3, further comprising a vehicle selecting device which i) monitors the communication state after communication has started between the first vehicle and the first moving object when a plurality of the second  
10 moving objects are traveling on the road on which the first vehicle is traveling, and ii) selects from among the plurality of the second moving objects at least one of the second moving objects as a transmission target according to the monitoring results.

13. The driving support system according to claim 12, wherein when communication  
15 between the first vehicle and the first moving object continues after the first vehicle has passed through the communication impeding intersection, at least one of the second moving objects that has not passed through the communication impeding intersection but which is behind and traveling in the same direction as the first vehicle is at least included as the transmission target.

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14. The driving support system according to claim 12, wherein when communication between the first vehicle and the first moving object continues after the first vehicle has passed through the communication impeding intersection, at least one of the second moving objects which is behind and traveling away from the first vehicle is excluded from  
25 being the transmission target.

15. A driving support system comprising:

a receiving device which obtains at least one of the communication impeding intersection information and the moving object information by bi-directional  
30 communication with a third moving object which is provided with the driving support system according to claim 1; and

a transmitting device which transmits to a fourth moving object at least one of the communication impeding intersection information and the moving object information.

16. A driving support system comprising:

a receiving device which obtains information relating to the presence of the radio-wave blocking object by bi-directional communication with a fifth moving object which is provided with the driving support system according to claim 10; and

5 a transmitting device which transmits to a sixth moving object information relating to the presence of the radio-wave blocking object.

17. A driving support system for a vehicle, comprising:

10 a detecting device which detects the presence of an intersection ahead on a road on which a first vehicle is traveling based on predetermined map data;

a receiving device which is provided in a communication apparatus enabling bi-directional communication between the first vehicle and an unspecified number of moving objects, said receiving device obtaining information by communication with a first moving object, from among the unspecified number of moving objects, which is on an intersecting  
15 road which intersects the road on which the first vehicle is traveling at the intersection when the intersection has been detected;

an information generating device that generates at least one of intersection information relating to the intersection and moving object information relating to the first moving object based on the obtained information; and

20 a transmitting device that transmits the generated information to a second moving object, from among the unspecified number of moving objects, which is on the road on which the first vehicle is traveling.

18. The driving support system according to claim 17, wherein the generated  
25 information is transmitted to the second moving object only when it has been detected that there is a facility of a predetermined scale or larger around the detected intersection based on the predetermined map data.

19. The driving support system according to claim 17, wherein only information  
30 relating to the first moving object that is in a predetermined position with respect to the facility of a predetermined scale or larger is included in the moving object information.

20. A vehicular control system provided in a vehicle, comprising:

a receiving device for receiving at least one of the communication impeding

intersection information and the moving object information provided by the driving support system according to claim 1; and

a control apparatus that controls the vehicle using the received information.

5           21. A vehicular control system provided in a vehicle, comprising:

a receiving device for receiving the information relating to the presence of the radio-wave blocking object at the communication impeding intersection provided by the driving support system according to claim 10; and

a control apparatus that controls the vehicle using the received information.